IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Re:	Application of:	Anwar Abumustafa
	Serial No.:	10/590,284
	Filed:	April 19, 2007
	For:	FLOW-CONTROL VALVE DEVICE FOR A PUMP
	Art Unit:	3746
	Examiner:	Amene Setegne Bayou

Mail Stop: APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

April 14, 2011

APPELLANT'S BRIEF UNDER 37 C.F.R. § 41.37

Sir:

Appellant submits this brief for the consideration of the Board of Patent Appeals and Interferences (the Board) in support of their appeal of the Final Rejection dated July 15, 2010 and the Advisory Action dated November 9, 2010. The statutory fee of $540.00 is submitted concurrently herewith. If any additional fees are deemed to be due at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

1. REAL PARTY IN INTEREST

The real party in interest is LUK FAHRZEUG-HYDRAULIK GMBH & CO. KG, a German corporation having a place of business in Bad Homburg, Germany, and the assignee of the entire right, title and interest in the above-identified patent application. The invention was assigned to LUK FAHRZEUG-HYDRAULIK GMBH & CO. KG by an assignment originating from inventor Anwar Abumustafa recorded on April 19, 2007 at reel 019208, frame 0553.

2. RELATED APPEALS AND INTERFERENCES

Appellants, their legal representatives, and assignee are not aware of any appeal or interference that directly affects, will be directly affected by, or will have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS

Claims 7 to 11 and 13 are pending in the application. Claims 7 to 11 and 13 were rejected in the Final Office Action dated July 15, 2010. Claims 1 to 6 and 12 were canceled.

The rejections to claims 7 to 11 and 13 thus are appealed. A copy of appealed claims 7 to 11 and 13 is attached hereto as Appendix A.

4. STATUS OF AMENDMENTS

No amendments have been filed subsequent to the July 15, 2010 Final Office Action.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 7 recites a pump comprising: a flow-control valve device including a piston displaceably accommodated within a piston bore belt (for example, page 4, paragraph

[0014], lines 1 to 5; for example, piston 30 and bore 3 in Fig. 2), the piston bore having at least one inflow channel and at least one outflow channel (for example, page 3, paragraph [0013], lines 3 to 8; for example, radial outflow bores 13 in Fig. 2) and the piston having an axial inflow orifice and a plurality of radial, lateral outflow orifices (for example, page 4, paragraph [0014], lines 6 to 7 and 9 to 12; for example, axial inflow orifice 32 and outflow orifices 35 in Fig. 2) and a circumferential outflow groove disposed between a first collar and a second collar (for example, page 4, paragraph [0014], lines 7 to 8; for example, circumferential outflow groove 31 and guide collar 19 and middle piston collar 17 in Fig. 2), the second collar forming a control edge for an outflowing fluid flow (for example, page 3, paragraph [0013], line 9; for example, second collar 17 and control edge 15 in Fig. 2), the axial inflow orifice extending cylindrically at least to a beginning of the radial, lateral outflow orifices (for example, axial inflow orifice 32 and outflow orifices 35 in Fig. 2), and the circumferential outflow groove expanding in terms of a radial depth on an outer circumference of the piston towards the control edge (for example, page 4, paragraph [0014], lines 7 to 9; for example, circumferential outflow groove 31, piston 30 and control edge 15 in Fig. 2).

Dependent claim 8 recites to claim 7 wherein the outflow groove expands in a conical form on a piston side and, as the result of a radially, inwardly directed arc, subsequently reaches a greatest depth in a region of the control edge (for example, page 4, paragraph [0014], lines 7 to 9 and 12 to 15; for example, circumferential outflow groove 31 in Fig. 2).

Dependent claim 9 recites to claim 8 wherein diameters of the radial outflow orifices extend from the axial, cylindrical inflow orifice into the radially, inwardly directed arc in the control edge region (for example, page 4, paragraph [0014], lines 9 to 12; for example, radial outflow orifices 35 in Fig. 2).

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 7 to 11 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's admitted prior art of Figure 1 (hereinafter "AAPA"), in view of U.S. Patent No. 3,978,879 to Termansen et al. (hereinafter "Termansen") further in view of Patent No. WO03/040599 to Nirasawa et al. (hereinafter "Nirasawa").

7. ARGUMENTS

A. 35 U.S.C. §103 Rejections

Claims 7 to 11 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Termansen and further in view of Nirasawa.

AAPA discloses a flow control valve piston shown in Fig. 1 and disclosed in the present application in paragraph [0013].

Termansen discloses a control means for hydrostatic steering systems and the like.

Nirasawa discloses a hydraulic valve "comprising a valve body and a spool, the valve body having a cylindrical spool-receiving room; and an oil groove." (Col. 2, lines 49 to 51).

Claim 7 recites "pump comprising:

a flow-control valve device including a piston displaceably accommodated within a piston bore, the piston bore having at least one inflow channel and at least one outflow channel, and the piston having an axial inflow orifice and a plurality of radial, lateral outflow orifices and a circumferential outflow groove disposed between a first collar and a second collar, the second collar forming a control edge for an outflowing fluid flow,

the axial inflow orifice extending cylindrically at least to a beginning of the radial, lateral outflow orifices, and the circumferential outflow groove expanding in terms of a radial depth on an outer circumference of the piston towards the control edge."

Admittedly AAPA fails to teach or show "the axial inflow orifice extending cylindrically at least to a beginning of the radial, lateral outflow orifices, and the circumferential outflow groove expanding in terms of a radial depth on an outer circumference of the piston towards the control

edge" as required by claim 7. The Office Action on page 3 cites to Termansen for teaching "the axial inflow orifice extending cylindrically at least to a beginning of the radial, lateral outflow orifices," and Nirasawa for teaching "the circumferential outflow groove expanding in terms of a radial depth on an outer circumference of the piston towards the control edge."

There is no proper reason or motivation to combine AAPA, Termansen and Nirasawa. The combination asserted by the Examiner is based on impermissible hindsight. The Office Action asserts on page 5 that the motivation for such a combination is "smooth flow transition between discharge orifice and an outlet connection." However, Nirasawa is unrelated to the control flow of power steering and one of skill in the art would not have combined Nirasawa with the teachings of AAPA and Termansen. The Examiner has simply pulled an object from a regulator valve of a transmission out of the prior art Nirasawa, a passage 44 of spool 40, and combined it with unrelated power steering components of AAPA and Termansen. Therefore, the Examiner's motivation in seeking out the unrelated component (passage 44 of spool 40) to provide an outflow groove of the claimed shape is based on "knowledge gleaned only from applicant's disclosure," which is an improper hindsight reconstruction. MPEP 2141.01(a). The Examiner's reasoning for such a modification is completely conclusory and amounts to an impermissible hindsight reconstruction. See MPEP 2142; *KSR Int'l Co. v. Teleflex Inc.*, 383 127 S. Ct. 1727, 1740-41 (2007) ("[R]ejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."); MPEP 2145; *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2D (BNA) 1596 (Fed. Cir. 1988) ("[C]annot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."). It is respectfully submitted that Examiner's finding of obviousness is based solely on the present specification and a desire to meet the claim language and not the knowledge of one of skill in the art at the time of the present invention.

Furthermore, even if there was reason or motivation to combine the references, which there is not, combining AAPA, Termansen and Nirasawa would result in having small bore holes in the Nirasawa piston which is not the present invention. The Office Action cites to passage 44 of Nirasawa for teaching the outflow groove as claimed. However, Nirasawa passage 44 teaches the reverse of the circumferential outflow groove in the present invention. As seen in Fig. 1 of Nirasawa, the greatest depth of passage 44 is in the beginning of the passage. Using large radial outflow bores of the present invention would not be possible with passage 44 of Nirasawa because when spool 40 of Nirasawa opens, the fluid flows off immediately to the maximum depth of passage 44. Such an axial inflow in spring mounting room 47 would only be operable with a very small orifice from spring mounting room 47 to passage 44 without putting the stability of the piston at risk.

Reversal of the rejection of independent claim 7 and claims 8 to 11 and 13 which directly and indirectly depend on claim 7, under 35 U.S.C. §103, is respectfully requested.

Claim 8 Argued Separately

With further regard to claim 8, claim 8 recites "the pump as recited in claim 7 wherein the outflow groove expands in a conical form on a piston side and, as the result of a radially, inwardly directed arc, subsequently reaches a greatest depth in a region of the control edge."

Nirasawa fails to teach or show the outflow groove having a "radially, inwardly directed arc." As seen in Fig. 1 of Nirasawa, passage 44 expands in two conical forms which are connected by an arched groove rounded outwards. It is evident that passage 44 does not have a "radially inwardly directed arc" as claimed. Nor has the Office Action addressed this language.

For this additional reason, reversal of the rejection to claim 8 is respectfully requested.

Claim 9 Argued Separately

With further regard to claim 9, claim 9 recites "the pump as recited in claim 8 wherein diameters of the radial outflow orifices extend from the axial, cylindrical inflow orifice into the radially, inwardly directed arc in the control edge region."

The Office Action asserts on page 3 that "it is clear that the valve of APA will have radial outflow orifices whose diameter extend from the axial, cylindrical inflow orifice into the radially, inwardly directed arc in the control edge region." However applicant fails to see how this is clear. As previously discussed above, if Termansen and Nirasawa were combined with the AAPA, the large radial bores would not be possible. Nirasawa shows an inflow pipe L1 having a spool 40 which flows radially over a circular groove 31. When the piston opens in Nirasawa, the fluid flows off immediately to the maximum depth of a conical formed passage 44. Having such a form, an axial inflow through spring mount 47 would only be operable with very small orifices without putting the stability of the valve piston at risk.

For this additional reason, reversal of the rejection to claim 9 is respectfully requested.

CONCLUSION

It is respectfully submitted that the application is in condition for allowance. Favorable consideration of this appeal brief is respectfully requested.

Respectfully submitted,

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DATED: April 14, 2011

By: _____

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APPENDIX A:

PENDING CLAIMS 7 to 11 and 13 OF U.S.
APPLICATION SERIAL NO. 10/590,284

Claim 7 (previously presented): A pump comprising:

a flow-control valve device including a piston displaceably accommodated within a piston bore, the piston bore having at least one inflow channel and at least one outflow channel, and the piston having an axial inflow orifice and a plurality of radial, lateral outflow orifices and a circumferential outflow groove disposed between a first collar and a second collar, the second collar forming a control edge for an outflowing fluid flow,

the axial inflow orifice extending cylindrically at least to a beginning of the radial, lateral outflow orifices, and the circumferential outflow groove expanding in terms of a radial depth on an outer circumference of the piston towards the control edge.

Claim 8 (previously presented): The pump as recited in claim 7 wherein the outflow groove expands in a conical form on a piston side and, as the result of a radially, inwardly directed arc, subsequently reaches a greatest depth in a region of the control edge.

Claim 9 (previously presented): The pump as recited in claim 8 wherein diameters of the radial outflow orifices extend from the axial, cylindrical inflow orifice into the radially, inwardly directed arc in the control edge region.

Claim 10 (previously presented): The pump as recited in claim 7 wherein the piston includes a third collar.

Claim 11 (previously presented): The pump as recited in claim 7 wherein the first and second collars have circumferential pressure-equalization grooves.

Claim 13 (previously presented): The pump as recited in claim 7 wherein the pump is a power-steering pump.

APPENDIX B

Evidence Appendix under 37 C.F.R. §41.37(c)(ix):

No evidence pursuant to 37 C.F.R. §§1.130, 1.131 or 1.132 and relied upon in the appeal has been submitted by appellants or entered by the examiner.

APPENDIX C

Related proceedings appendix under 37 C.F.R. §41.37(c)(x):

As stated in "2. RELATED APPEALS AND INTERFERENCES" of this appeal brief, appellants, their legal representatives, and assignee are not aware of any appeal or interference that directly affects, will be directly affected by, or will have a bearing on the Board's decision in this appeal.